Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented) A method comprising:

sending a first message including an aggregation discovery code from a first node to a second node, the second node including a remote discovery register;

receiving a second message at the first node, the second message including the contents of the second node's remote discovery register, the contents of the remote discovery register indicating whether a PHY of the second node has been allocated for aggregation;

comparing a value of the remote discovery register to the aggregation discovery code.

2. (Original) The method of claim 1 wherein the first message comprises a G.994.1 REQ-CLR message and the second message comprises a G.994.1 CLR message.

3. (Original) The method of claim 1 wherein the sending a first message from a first node to a second node comprises sending a first message from a first node to a customer node.

4. (Previously Presented) A method comprising:

receiving a first message including an aggregation discovery code at a second node from a first node, the second node including a remote discovery register;

sending a second message from the second node to the first node in response to the first message, the second message including the contents of the second node's remote discovery register, the contents of the remote discovery register indicating whether a PHY of the second node has been allocated for aggregation; and

comparing a value of the remote discovery register to the aggregation discovery code.

5. (Original) The method of claim 4 wherein the first message comprises a G.994.1 REQ-CLR message, and the second message comprises a G.994.1 CLR message, the first node comprising a central office node and the second node comprising a customer node.

6. (Previously Presented) A method comprising sending a first message from a first node to a second node to conditionally set a remote discovery register of the second node to an aggregation discovery code provided by the first node if the remote discovery register is clear, the contents of the remote discovery register indicating whether a PHY at the second node has been allocated for aggregation, and comparing a value of the remote discovery register to the aggregation discovery code.

7. (Original) The method of claim 6 and further comprising:

receiving a second message at the first node, the second message including an updated contents of the second node's remote discovery register.

8. (Original) The method of claim 7 wherein the first message comprises a G.994.1 CL message that includes an aggregation discovery operation field set to "set if clear" to conditionally set a remote discovery register of the second node to an aggregation discovery code if the remote discovery register is clear and the second message comprises a G.994.1 CLR message.

9. (Original) The method of claim 7 and further comprising the second node determining whether the remote discovery register is clear, and then setting the value of the remote discovery register to the aggregation discovery code if the remote discovery register is clear.

10. (Previously Presented) A method comprising:

receiving a first message at a second node from a first node, the first message including an aggregation discovery code, the second node including a remote discovery register; and

the second node, in response to the first message, determining whether the remote discovery register is clear, comparing a value of the remote discovery register to the aggregation discovery code, and then setting the value of the remote discovery register to the aggregation discovery code if the remote discovery register is clear, the contents of

the remote discovery register indicating whether a PHY at the second node has been allocated for aggregation.

11. (Original) The method of claim 10 wherein the first message includes an aggregation discovery operation field set to "set if clear," the method further comprising sending a second message from the second node to the first node, the second message including an updated contents of the remote discovery register.

12. (Original) The method of claim 11 wherein the first message comprises a G.994.1 CL message and the second message comprises a G.994.1 CLR message.

13. (Previously Presented) A method comprising sending a first message including an aggregation discovery code from a first node to a second node and comparing a value of a remote discovery register of the second node to the aggregation discovery code to conditionally clear the remote discovery register of the second node if the value of the remote discovery register matches the aggregation discovery code provided by the first node, the contents of the remote discovery register indicating whether a PHY at the second node has been allocated for aggregation.

14. (Original) The method of claim 13 wherein the first message includes an aggregation discovery operation field set to "clear if same," the method further comprising sending a second message from the second node to the first node, the second message including an updated contents of the remote discovery register.

15. (Original) The method of claim 14 wherein the first message comprises a G.994.1 CL message and the second message comprises a G.994.1 CLR message.

16. (Original) A method comprising:

receiving a first message at a second node from a first node, the first message including an aggregation discovery code, the second node including a remote discovery register;

comparing a value of the remote discovery register to the aggregation discovery code; and

clearing the remote discovery register if there is a match between the value of the remote discovery register and the aggregation discovery code, the value of the remote discovery register indicating whether a PHY at the second node has been allocated for aggregation.

17. (Original) The method of claim 16 wherein the first message comprises a G.994.1 CL message that includes an aggregation discovery operation field set to "clear if same.".

18. (Previously Presented) An apparatus comprising:

a Media Access Control (MAC);

a PHY coupled to the MAC;

a remote discovery register, a value of the remote discovery register to indicate whether the PHY has been allocated for aggregation; and

a PHY aggregation, the PHY aggregation adapted to perform a read-conditional write upon the remote discovery register to allocate and de-allocate the PHY to PHY aggregation;

wherein the PHY aggregation comprises a PHY aggregation adapted to compare the value of the remote discovery register to an aggregation discovery code received from the first node.

19. (Original) The apparatus of claim 18, wherein the PHY aggregation comprises a PHY aggregation adapted to determine whether the remote discovery register is clear, and if so, then to set the value of the remote discovery register to an aggregation discovery code received from the first node, in response to a "set if clear" request from the first node.

20. (Original) The apparatus of claim 18, wherein the PHY aggregation comprises a PHY aggregation adapted to determine whether the value of the remote discovery register matches an aggregation discovery code received from the first node, and if so, then to clear the remote discovery register, in response to a "clear if same" request from the first node.

21. (Original) The apparatus of claim 18, the PHY comprising at least one from the group comprising:

a 2BASE-TL PHY; and

a 10PASS-TS PHY.

22. (Original) The apparatus of claim 18 wherein the PHY comprises a plurality of PHYs.

23. (Original) The apparatus of claim 18 wherein the MAC comprising a plurality of MACs, and the remote discovery register comprising plurality of remote discovery registers, each remote discovery register corresponding to a MAC.

24. (Original) The apparatus of claim 18 and further comprising a processor coupled to the MAC, a memory and an input/output controller coupled to the processor.

25. (Original) The apparatus of claim 19 wherein the aggregation discovery code comprises a Media Access control (MAC) address of the node.

26. (Original) The apparatus of claim 20 wherein the aggregation discovery code comprises a Media Access control (MAC) address of the node.

27. (Original) The apparatus of claim 25 wherein the Media access control address comprises an Ethernet MAC address.

28. (Original) The apparatus of claim 26 wherein the MAC address comprises an Ethernet MAC address.

29. (Previously Presented) A method comprising:

performing PHY aggregation discovery, including, in response to a message received at a second node from a first node, performing a read-conditional write operation upon a remote discovery register at the second node to perform at least one of allocate and de-allocate a PHY at the second node to PHY aggregation, and comparing at the second node whether the value of the remote discovery register matches an aggregation discovery code received provided by the first node.

30. (Original) The method of claim 29, the method further comprising, in response to a "set if clear" request from the first node, determining at the second node whether the remote discovery register is clear, and if so, then to set the value of the remote discovery register to an aggregation discovery code received from the first node.

31. (Previously Presented) The method of claim 29, and further comprising, in response to a "clear if same" request from the first node, determining at the second node whether the value of the remote discovery register matches an aggregation discovery code provided by the first node, and if so, then clearing the remote discovery register.

32. (Previously Presented) A method of PHY aggregation discovery comprising:

exchanging CL (capabilities list) and CLR (capabilities list+request) messages between two nodes to manipulate a remote discovery register at one of the nodes;

said exchanging comprising at least one from the group comprising:

sending a "set if clear" request message including an aggregation discovery code to conditionally set a value of the remote discovery register to the aggregation discovery code; and

sending a "clear if same" request message including an aggregation discovery code to conditionally clear a node's remote discovery register;

wherein the sending the "set if clear" request messages includes comparing a first message including an aggregation discovery code from a first node to a remote discovery register from a second node.

33. (Original) The method of claim 32 wherein the sending the "set if clear" request message comprises:

sending a first message from a first node to a second node, the first message having a discovery operation field set to "set if clear", the set if clear message including an aggregation discovery code, the second node including a remote discovery register;

determining if the remote discovery register is clear;

setting a value of the remote discovery register to the aggregation discovery code if the remote discovery register is clear.

34. (Original) The method of claim 33 wherein the sending a first message from the first node to the second node comprises sending a G.994.1 CL message from a first node to a second node.

35. (Original) The method of claim 33 wherein the sending a first message from the first node to the second node comprises sending a G.994.1 CL message from a central office node to a customer node.

36. (Original) The method of claim 32 wherein the sending the "clear if same" message comprises:

sending a first message from a first node to a second node, the first message having a discovery operation field set to "clear if same", the first message including an aggregation discovery code, the second node including a remote discovery register;

comparing the value of the value of the remote discovery register to the aggregation discovery code;

and clearing the remote discovery register if there is a match between the value of the remote discovery register and the aggregation discovery code.

37. (Original) The method of claim 36 wherein the sending a first message from the first node to the second node comprises sending a G.994.1 CL message from a first node to a second node.

38. (Previously Presented) A method comprising:

receiving a message including an aggregation discovery code at a first node from a second node, the second node including a remote discovery register, said message including the contents of the second node's remote discovery register, the contents of the remote discovery register indicating whether a PHY of the second node has been allocated to aggregation, and comparing a value of the remote discovery register to the aggregation discovery code.

39. (Original) The method of claim 38 wherein the message comprises a G.994.1 CLR message.